PROPERTY PLANNING COMMON ELEMENTS

COMPONENTS OF MASTER PLANS

HABITATS AND THEIR MANAGEMENT

Red Maple

Description

This cover type is comprised of >50% basal area in red maple. Red maple is a generalist species, able to thrive on a wider range of soil types, moistures, textures, pH, and elevation than any other forest species in North America. In Wisconsin, it occurs throughout the state growing in a wide range of dry to wet sites, although it tends to be most abundant in dry-mesic and wet-mesic sites (bimodal distribution) and is more abundant in northern and central Wisconsin than in the south. It can be found as a component in a variety of forest types. Its most common associates include balsam fir, white pine, sugar maple, beech, yellow birch, paper birch, eastern hemlock, eastern hophornbeam, northern white-cedar, aspens, black ash, pin cherry, black cherry, red oak, American elm, and swamp white oak.

Historically, red maple was a relatively minor component of most forests. Its dominance on any one site likely would have been short-lived, as it would either be replaced by more shade-tolerant species or set back by disturbance. It was previously not considered a separate cover type independent of the northern hardwood cover type. The widespread logging that removed much of northern Wisconsin's conifer forests following Euro-American settlement, followed by fire suppression, created conditions that allowed red maple to greatly increase in abundance. The decline of American elm to Dutch elm disease, selective removal of higher-value species such as red oak, yellow birch, and sugar maple, and, particularly in the south, lack of oak regeneration due to fire suppression, excessive herbivory, competition from native and non-native species, and unsustainable logging also have contributed to the increasing proportion of red maple in many stands.

Ecological Landscape Opportunities

Red maple occurs in all Ecological Landscapes (ELs) of the state, but is much more abundant in some than in others. Over 50% of the acreage is found within the Forest Transition and North Central Forest ELs, with an additional 11% in the Central Sand Plains. The 16 ELs are listed below in decreasing order of red maple acreage.

- North Central Forest
- Forest Transition
- Central Sand Plains
- Western Coulee and Ridges
- Northeast Sands
- Northern Highland
- Superior Coastal Plain
- Northern Lake Michigan Coastal
- Northwest Sands

- Central Lake Michigan Coastal
- Northwest Lowlands
- Central Sand Hills
- Southeast Glacial Plains
- Southern Lake Michigan Coastal
- Western Prairie
- Southwest Savanna

Rare Species

There are no rare species known to rely exclusively on red maple. However, rare species can be found in many stands containing red maple, based on findings in Wisconsin's 2015 Wildlife Action Plan. To learn more about Species of Greatest Conservation Need (SGCN) associated with forest types in which red maple can be an important component, visit the Northern Forest communities page and click on "Hardwood Swamp", "Northern Dry-mesic Forest", and "Northern Mesic Forest"; and visit the Southern Forest communities page and click on "Southern Dry-mesic Forest", "Southern Mesic Forest", "Southern Hardwood Swamp", and "White Pine-Red Maple Swamp".

Threats

- A lack of diversity in seral stages can harm both species that require mature forest and those that require areas of early-successional habitat.
- Many red maple stands suffer from ecological simplification – a lack of species and structural diversity needed to support a robust community of plants and animals – due to past and current management practices, invasion by non-native species, and excessive deer herbivory. This reduces habitat for a variety of species and makes forests more vulnerable to pests, diseases, and other environmental stresses.
- Invasive species are a growing threat to red maple stands. Problematic species currently include non-native honeysuckles and buckthorns, garlic mustard, reed canary grass, and non-native earthworms.

Management Techniques

- Coppice
- Group selection
- Overstory removal
- Patch selection
- Shelterwood
- Clearcut (strip)
- Single-tree selection
- Site preparation
- Intermediate treatments

- Pesticide treatments

Management Considerations

- Consider landscape composition and structure (species composition; successional stage; age structure; stand/patch size; degree of fragmentation, etc.) when deciding on management alternatives and techniques. Both uneven-aged and even-aged systems can be used to manage red maple. A variety of techniques may be applied depending on the management objectives. Conversion to another cover type also is an option.
- Where possible, manage for larger stands, larger blocks, to increase connectivity with surrounding forest, and to soften sharp transitions between cover types.
- If converting red maple to another cover type, consider oak (especially in central and southern Wisconsin), aspen, or conifers.
- If managing to maintain red maple, manage for compositional and structural diversity by: increasing species diversity (especially to increase representation of conifers such as white pine and hemlock, yellow birch, and oaks); retaining some large-diameter trees, living and dead cavity trees, snags, and coarse woody debris; creating canopy gaps of varying sizes; creating a diversity of age and size classes; and applying extended rotation or managed old-growth management to some stands.
- Protect special features such as ephemeral ponds, seeps, riparian areas, cliff faces, and rock outcrops.
- Limit permanent fragmentation caused by development (roads, landings, etc.).
- Control and limit deer herbivory.